

High-Fiber Diet Delivers Preeclampsia Risk Reduction

BY MIRIAM E. TUCKER
Senior Writer

VIENNA — A high-fiber diet reduces the risk for preeclampsia in pregnant women, Michelle A. Williams, Sc.D., reported at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

There is a wide body of literature supporting the link between consumption of dietary fiber and reductions in blood pressure, as well as improvements in other cardiovascular risks, such as cholesterol and triglyceride concentrations, insulin sensitivity, and inflammation. Current dietary guidelines, therefore, recommend a diet containing at least five servings of fruits or vegetables daily and a total daily fiber intake of 20-30 g.

Now, similar findings from both a case-control study involving 511 women and a prospective cohort study of 875 women suggest that "current efforts to encourage populations to consume diets high in grains, fruits, and vegetables may also benefit pregnant women," said Dr. Williams, professor of epidemiology at the University of Washington and associate director of the Center for Perinatal Studies at Swedish Medical Center, both in Seattle.

In the case-control study, 172 women with preeclampsia and 339 controls retrospectively completed questionnaires about their diets during pregnancy and in the 3 months before becoming pregnant.

The median daily consumption of carbohydrates was significantly lower in the preeclampsia group (216 g versus 253 g), as

was fiber consumption (18 g versus 19 g).

The women whose fiber intake placed them in the upper quartile of daily fiber consumption (more than 24 g) were 51% less likely to develop preeclampsia than were those in the lowest quartile (less than 13 g), after controlling for maternal age, parity, adiposity, income, and total caloric consumption.

Because of the potential limitations of this type of study design—including selection and recall bias—Dr. Williams and her colleagues followed this study with a larger prospective study in which the women were given a structured interview at 12 weeks' gestation in addition to the periconceptional dietary intake questionnaire.

Of the 875 women with singleton pregnancies, 62 had preeclampsia. Of those, 23 were among the lowest quartile for daily fiber consumption (less than 11.9 g), while 14 were in the highest quartile (more than 20.7 g). The women with preeclampsia accounted for approximately 10% of the total 222 women in the lowest fiber consumption quartile, compared with just 6% of the 218 in the highest quartile.

After adjustment for total daily calories, age, race or ethnicity, parity, prepregnancy body mass index, and daily vitamin C intake, the relative risk for preeclampsia was reduced by 70% among those whose fiber consumption was in the highest quartile, compared with those in the lowest. Even when a stricter definition of preeclampsia was used, resulting in the loss of 20 of the 62 women from the analysis, having the highest fiber consumption still cut the preeclampsia risk in half, Dr. Williams reported. ■

Obesity Doesn't Push Mild Hypertension to Preeclampsia

BY MIRIAM E. TUCKER
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VIENNA — Obesity does not appear to increase the risk for progression to preeclampsia among women with mild gestational hypertension remote from term, John R. Barton, M.D., reported.

Among women with mild gestational hypertension, however, higher body mass index (BMI) is associated with higher birth weights and increased rates of cesarean delivery, Dr. Barton said in a poster presentation at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

A total of 365 women with mild gestational hypertension and normal BMI (20-25 kg/m²) were matched one-to-one for gestational age at diagnosis, race, and parity to 365 women who also had mild gestational hypertension but whose BMIs were 30 kg/m² or greater. All had singleton pregnancies, said Dr. Barton of Central Baptist Hospital, Lexington, Ky.

Cesarean deliveries were significantly more common among the obese women (57% vs. 40%). However, the percentages who progressed to preeclampsia—41% in the obese group vs. 38% in the normal-weight group—were not significantly different between groups, nor were the percentages who developed severe hypertension, HELLP (hemolysis, ele-

vated liver enzymes, and low platelet count) syndrome, abruptio placentae, or eclampsia, Dr. Barton reported.

The majority of both obese and nonobese women delivered at 37 weeks or later, whereas the proportions delivered at sooner than 34 weeks—6.3% in the obese group vs. 9.9% of the normal weight women—were not significantly different.

Babies born to obese women had a significantly greater mean birth weight (3,033 g vs. 2,833 g), and a significantly smaller percentage of their babies weighed less than 2,500 g (24% vs. 32%). Perinatal deaths did not differ between the obese and nonobese groups.

This study differs from others that have found an association between obesity and the development of preeclampsia in that most of those data involved women who were originally normotensive, Dr. Barton noted.

These findings support previous recommendations for frequent antepartum monitoring of all women with hypertensive pregnancies, including twice-weekly fetal heart rate testing accompanied by weekly amniotic fluid volume estimation beginning at the time of diagnosis.

In addition, daily kick counts should be considered at the beginning of the third trimester. Abnormal non-stress tests or amniotic fluid elevations should be followed by a comprehensive maternal and fetal evaluation, he advised. ■

Uterine Artery Velocimetry Can Predict Preeclampsia's Return

BY MIRIAM E. TUCKER
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VIENNA — Uterine artery velocimetry performed at 24 weeks' gestation is a useful tool for predicting recurrence of preeclampsia and other complications in women who had preeclampsia in a previous pregnancy, Tiziana Frusca, M.D., reported.

A normal uterine artery velocimetry (UAV) at 24 weeks suggests a preeclampsia recurrence risk of less than 1%, whereas an abnormal result suggests a one-in-four chance that the patient will become preeclamptic again, as well as an elevated risk of other complications.

"Knowing these patients are at very high risk, we can monitor them more closely," Dr. Frusca said at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

Among 206 women with documented preeclampsia in a previous pregnancy, 39% had had severe or early-onset preeclampsia, 21% had chronic maternal disorders such as hypertension or autoimmune disorders, and 77% had been treated prophylactically with low-dose aspirin.

Preeclampsia recurred in 5.3% of subsequent pregnancies, whereas 12% (24) had hypertension without proteinuria, 14% (28) had intrauterine growth retardation (IUGR), and 1% (2) had placental abruption. Abnormal UAV—defined as a mean resistance index greater than 0.65 and/or the presence of bilateral notches—was identified in a total of 20% (41) of the women, while 80% (165) had normal UAV.

Complications were significantly more common among the women with abnormal UAV: hypertension without proteinuria (29% vs. 7%), IUGR (44% vs. 6%), and preeclampsia (24% vs. 0.6%), said Dr. Frusca of the department of ob.gyn. at the University of Brescia, Italy.

There were no differences in outcome related to whether the prior preeclampsia had been early vs. late, whether the mother had any underlying chronic conditions, or whether she had been treated previously with low-dose aspirin.

These results suggest an overall preeclampsia recurrence risk of 1 in 19, which rises to 1 in 4 if the woman has an abnormal Doppler at 24 weeks. However, if the UAV is normal, the recurrence risk is only 1 in 165. ■

Severe Maternal Morbidity May Be Rare, but Impact Is Large

BY HEIDI SPLETE
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SALT LAKE CITY — For every 1,000 deliveries in the United States between 1991 and 2000, 4.6 women experienced severe morbidity, William M. Callaghan, M.D., said at the annual meeting of the Society for Pediatric and Perinatal Epidemiologic Research.

Even relatively uncommon complications of pregnancy will impact large numbers of women, and hospitals should know where to focus their attention, said Dr. Callaghan of the Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta.

He used data from the National Hospital Discharge Survey to examine ICD-9 codes and identify women who likely had severe morbidity during or shortly after delivery. The severe morbidity rate was based on a 3-day hospital stay, which was above the median length of stay for a pregnancy.

On examination of approximately 318,000 records, it was found that

nearly 1,500 women experienced severe morbidity. Of these, almost 17% had a code for eclampsia. Respiratory failure, sepsis, renal failure, and cardiac arrest were among other causes of severe morbidity. In addition, nearly half of the women received transfusions, although the transfusion may have been as little as one unit of blood, Dr. Callaghan noted.

Older women, black women, and women with other than private insurance had a higher incidence of morbidity than their counterparts, as did women who delivered later in the decade. The incidence of severe morbidity increased gradually during the last 4 years of the study, but the reason for this increase was unclear, Dr. Callaghan said. He suggested that hospitals should use discharge codes to monitor severe morbidity as a way to review what types of services are being used and how to improve them.

"Identification and review of women with severe morbidity has potential to provide insight into opportunities for prevention along the continuum of morbidity," he said. ■